Travis Zhang

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Education

Cornell University, **College of Engineering,** Ithaca, NY — Sep 2020 – May 2024
Bachelor of Science in Computer Science

- **Relevant Courses:** Multivariable Calculus, Discrete Structures, OOP and Data Structures, Introduction to Machine Learning
- **Honors:** Steve Sanghi Scholarship Award, Andy Grove Intel Scholarship, Impact Scholarship, National Honor Society Semifinalist Scholarship, Worth & Dot Howard Foundation Scholarship

Hamilton High School, Chandler, AZ — July 2016 – May 2020

- **Weighted GPA**: 4.927/5.0, **Unweighted GPA**: 4.0/4.0
- **Relevant Courses:** Multivariable Calculus, Differential Equations, Linear Algebra, AP Java, AP Physics C: Mechanics and E & M
- **Awards:** Association of Chinese American Physicians Bronze Prize, Arizona Science and Engineering Fair 3rd place, Arizona Junior Science and Humanities Symposium 2nd place

Experience

ASU Robust Machine Learning Group — **Tempe, Arizona**
Student Researcher — *April 2019 – Present*

- Applied transformation-invariant constraints on adversarial training using Tensorflow to improve Convolutional Neural Network (CNN) performance
- Implemented 3 algorithms to reduce time for loss to converge for proposed methodology (up to 60% reduction)
- Designed and implemented optimization algorithms in Pytorch to fool a Deep RL agent in a realistic scenario

University of Central Florida's Competitive Programming Camp — **Orlando, Florida**
Student — *June 2017 – July 2017*

- Learned about various competitive programming algorithms including Dijkstra's algorithm and Prim's algorithm
- Competed in 5+ programming competitions at the camp

ASU Signal, Information, Networks, and Energy Laboratory — **Tempe, Arizona**
Student Researcher — *Sep 2017 – April 2018*

- Created program to temporally and spatially interpolate power outputs of solar panels using Python libraries
- Analyzed patterns in cloud coverage and temperature to account for fluctuations in power output

Leadership Activities

Associate of Computer Science Undergraduates — **Ithaca, New York**
Academic Officer — *Oct 2020 – Present*

- Helped organize and host academic events including Research Night and internship/research panels

Hamilton Robotics Team — **Chandler, AZ**
Head of Electrical, Head of Communications — *Aug 2016 – May 2020*

- Designed robot using Solidworks and used CNC router and mill to build precise parts
- Programmed autonomous, teleoperated, and vision code for robot using Java and FRC WPI Library

Mathworks Math Modeling Challenge — **Chandler, AZ**
Team Leader — *Jan 2019 – Feb 2020*

- Developed and implemented mathematical models in Python to solve real-world problems
- Wrote a 15+ page research paper to report experimental designs and results

Personal Projects

HackOurCampus Hackathon — Aug 2020 – Sep 2020

- Designed iOS app that reminded students to bring both COVID-related and personal items
- Implemented Geofencing technologies to encourage social distancing and track when to send out reminders

National Honor Society App — July 2019 – Jan 2020

- Developed both the iOS and Android mobile application for school's NHS club
- Incorporated Google Firebase to create a personalized experience for users

CUSD Equity Symposium App — Nov 2018 – May 2020

- Produced iOS app for the Chandler school district's annual equity symposium
- Integrated Google Firebase to build a login system and to store symposium information in a database

Skin Cancer Diagnosis using Neural Networks — Aug 2018 – April 2019

- Built CNNs and Generative Adversarial Networks in Keras + Tensorflow to improve computer diagnosis of skin cancer

Skills and Interests

Skills: Java, Python, Keras, Swift, C++, Pytorch, Tensorflow, Numpy, Pandas, Git/Github, HTML, CSS, LaTeX, Scikit-learn, SwiftUI
Miscellaneous Skills: Photoshop, Autodesk Inventor, Solidworks CAD, Welding, CNC Machine, Soldering, Milling
Interests: Photography, Tennis, Snowboarding, Adversarial Attacks in Machine Learning, Robotics, Airplanes